

Complete listing of claims:

Claim 1 (cancelled).

Claim 2 (previously presented) A compound according to claim 18 wherein R¹ is C₁-C₆ alkyl which may optionally be substituted with one hydroxy, fluoro, CF₃, or C₁-C₄ alkoxy group and may optionally contain one double or triple bond provided that at least two carbons are present in the C₁-C₆ alkyl group; and R² is benzyl, C₁-C₆ alkyl, which may optionally contain one double or triple bond provided that at least two carbons are present, where said C₁-C₆ alkyl and the phenyl moiety of said benzyl may optionally be substituted with one fluoro CF₃, or C₁-C₂ alkyl, C₁-C₂ alkoxy or chloro group.

Claim 3 (previously presented) A compound according to claim 18 wherein: R³ is methyl, ethyl, chloro or methoxy; R⁴ is methyl or ethyl, G is hydrogen, methyl, ethyl, or E=G is C=O or C=S and R⁵ is phenyl, pyridyl, or pyrimidyl which is substituted with more than two substituents which are independently selected from C₁-C₄ alkyl and -O(C₁-C₄ alkyl), (C₁-C₄ alkyl)-O-(C₁-C₂ alkyl), CF₃, OCF₃, -CHO, (C₁-C₄alkyl)-OH, CN, Cl, F, Br, I and NO₂, wherein one of the carbon-carbon single bonds of each of the foregoing (C₁-C₄)alkyl, groups having at least two carbons may optionally be replaced by a carbon-carbon double or triple bond.

Claim 4 (previously presented) A compound according to claim 18 wherein A is N or A is CH or CCH₃ which may optionally be substituted by fluoro, chloro, CF₃, C₁-C₄ alkyl or C₁-C₄ alkoxy.

Claims 5, 6 and 7 (cancelled).

Claim 8 (previously presented) A compound according to claim 18 wherein F is NR⁴.

Claim 9 (previously presented) A compound as claimed in claim 18 wherein F is CHR⁴.

Claim 10 (previously presented) A compound according to claim 18 wherein F is nitrogen and is double bonded to E.

Claim 11 (cancelled).

Claim 12 (previously presented) A compound according to claim 18 wherein E is carbon.

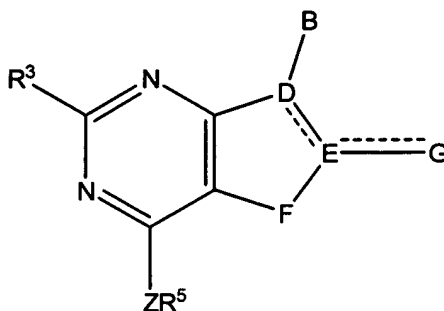
Claim 13 (previously presented) A compound according to claim 18 wherein E is nitrogen.

Claim 14 (previously presented) A compound according to claim 18 wherein E is NR²⁵ and R²⁵ is hydrogen, C₁-C₄ alkyl or-CF₃.

Claims 15, 16 and 17 (cancelled).

Claim 18 (previously amended)

A compound of the formula



wherein the dashed lines represent optional double bonds;

B is $-\text{NR}^1\text{R}^2$, $-\text{CR}^1\text{R}^2\text{R}^{10}$, $-\text{C}(=\text{CR}^2\text{R}^{11})\text{R}^1$, $-\text{NHCR}^1\text{R}^2\text{R}^{10}$, $-\text{OCR}^1\text{R}^2\text{R}^{10}$, $-\text{SCR}^1\text{R}^2\text{R}^{10}$, $\text{CR}^2\text{R}^{10}\text{NHR}^1$, $-\text{CR}^2\text{R}^{10}\text{OR}^1$, $-\text{CR}^2\text{R}^{10}\text{SR}^1$ or $-\text{COR}^2$;

E is nitrogen, CH or carbon;

D is nitrogen and is single bonded to all atoms to which it is attached, or D is carbon and is double bonded to E, or D is CH and is single bonded to E;

F is CHR^4 or NR^4 ; provided that either 1) exactly one of D or E is nitrogen and F is CHR^4 or 2) F is NR^4 and neither D nor E is nitrogen;

G, when single bonded to E is hydrogen, C_1 - C_4 alkyl, $-\text{S}(\text{C}_1\text{-C}_4 \text{ alkyl})$, $-\text{O}(\text{C}_1\text{-C}_4 \text{ alkyl})$, NH_2 , $-\text{NH}(\text{C}_1\text{-C}_4 \text{ alkyl})$ or $-\text{N}(\text{C}_1\text{-C}_2 \text{ alkyl})(\text{C}_1\text{-C}_4 \text{ alkyl})$ wherein each of the C_1 - C_4 alkyl groups of G may optionally be substituted by one hydroxy, $-\text{O}(\text{C}_1\text{-C}_2 \text{ alkyl})$ or fluoro group; and G when double bonded to E is oxygen, sulfur or NH; and G, when E is nitrogen and double bonded to D, is absent;

R^1 is hydrogen, C_1 - C_6 alkyl optionally substituted with one or two substituents R^8 independently selected from hydroxy, fluoro, chloro, bromo, iodo, C_1 - C_4 alkoxy, CF_3 , $-\text{C}(=\text{O})\text{O}(\text{C}_1\text{-C}_4 \text{ alkyl})$, $-\text{OC}(=\text{O})(\text{C}_1\text{-C}_4 \text{ alkyl})$, $\text{OC}(=\text{O})\text{N}(\text{C}_1\text{-C}_4 \text{ alkyl})(\text{C}_1\text{-C}_2 \text{ alkyl})$, $-\text{NHCO}(\text{C}_1\text{-C}_4 \text{ alkyl})$, $-\text{COOH}$, $-\text{COO}(\text{C}_1\text{-C}_4 \text{ alkyl})$, $-\text{CONH}(\text{C}_1\text{-C}_4 \text{ alkyl})$, $-\text{CON}(\text{C}_1\text{-C}_4 \text{ alkyl})(\text{C}_1\text{-C}_2 \text{ alkyl})$, $-\text{S}(\text{C}_1\text{-C}_4 \text{ alkyl})$, $-\text{CN}$, NO_2 , $-\text{SO}(\text{C}_1\text{-C}_4 \text{ alkyl})$, $-\text{SO}_2(\text{C}_1\text{-C}_4 \text{ alkyl})$, $-\text{SO}_2\text{NH}(\text{C}_1\text{-C}_4 \text{ alkyl})$, $\text{SO}_2\text{N}(\text{C}_1\text{-C}_4 \text{ alkyl})(\text{C}_1\text{-C}_2 \text{ alkyl})$, wherein a carbon-carbon single bond of each of the C_1 - C_4 alkyl groups in the foregoing R^1 groups having at least two carbons may optionally be replaced with a carbon-carbon double or triple bond, and one or two carbon-carbon single bonds of each of the C_1 - C_4 alkyl groups in the foregoing R^1 groups having four carbon atoms may optionally be replaced with a carbon-carbon double or triple bond; R^2 is C_1 - C_{12} alkyl wherein one carbon-carbon single bond of any said alkyl group having at least two carbons, one or two carbon-

carbon single bonds of any alkyl having at least four carbons, and from one to three carbon-carbon single bonds of any said alkyl having at least six carbons may optionally be replaced with a carbon-carbon double or triple bond; or R^2 is aryl or (C₁-C₄ alkylene)aryl, wherein said aryl and the aryl moiety of said (C₁-C₄ alkylene)aryl is selected from phenyl, naphthyl, thienyl, benzothienyl, pyridyl, quinolyl, pyrazinyl, pyrimidinyl, imidazolyl, furanyl, benzofuranyl, benzothiazolyl, isothiazolyl, pyrazolyl, pyrrolyl, indolyl, pyrrolopyridyl, oxazolyl and benzoxazolyl; or R^2 is C₃-C₈ cycloalkyl or (C₁-C₆ alkylene)(C₃-C₈ cycloalkyl), wherein one or two of the carbon atoms of said cycloalkyl and the 5 to 8 membered cycloalkyl moieties of said (C₁-C₆ alkylene)(C₃-C₈ cycloalkyl) may optionally and independently be replaced by an oxygen or sulfur atom or by NZ^2 wherein Z^2 is selected from hydrogen, C₁-C₄ alkyl, benzyl and C₁-C₄ alkanoyl, and wherein each of the foregoing R^2 groups may optionally be substituted with from one to three substituents independently selected from chloro, fluoro, hydroxy and C₁-C₄ alkyl, or with one substituent selected from bromo, iodo, C₁-C₆ alkoxy, -OC(=O)(C₁-C₆ alkyl), OC(=O)N(C₁-C₄ alkyl)(C₁-C₂ alkyl), -S(C₁-C₆ alkyl), amino, -NH(C₁-C₂ alkyl), -N(C₁-C₂ alkyl)(C₁-C₄ alkyl), -N(C₁-C₄ alkyl)-CO-(C₁-C₄ alkyl), -NHCO(C₁-C₄ alkyl), -COOH, -COO(C₁-C₄ alkyl), -CONH(C₁-C₄ alkyl), CON(C₁-C₄ alkyl)(C₁-C₂ alkyl), -SH, -CN, -NO₂, -SO(C₁-C₄ alkyl), -S₂(C₁-C₄ alkyl), -SO₂NH(C₁-C₄ alkyl) and -SO₂N(C₁-C₄ alkyl)(C₁-C₂ alkyl);

-NR¹R² may form a 3 to 8 membered ring,[[,]] said ring consisting of single bonds, wherein, when said ring has from 5 to 8 members, one or two of the ring carbon atoms of such a 5 to 8 membered ring may optionally and independently be replaced by an oxygen or sulfur atom or by NZ^3 wherein Z^3 is hydrogen, C₁-C₄ alkyl, benzyl and C₁-C₄ alkanoyl, and wherein from one to three of the single bonds of such a 3 to 8 membered ring that are carbon-carbon or carbon-nitrogen single bonds may each optionally be replaced by a double bond;

or -CR¹R²R¹⁰ may form a 3 to 8 membered carbocyclic ring, said ring consisting of single bonds, wherein from one to three of the single bonds of such a 3 to 8 membered ring ~~that are carbon-carbon or carbon-nitrogen single bonds~~ may each optionally be replaced by a double bond;

R^3 is hydrogen, C₁-C₄ alkyl, O(C₁-C₄ alkyl), chloro, fluoro, bromo, iodo, -CN, -S(C₁-C₄ alkyl) or -S₂(C₁-C₄ alkyl) wherein each of the (C₁-C₄ alkyl) moieties in the foregoing R^3 groups may optionally be substituted with one substituent R^9 selected from hydroxy, fluoro and (C₁-C₂ alkoxy);

each of R^4 is, independently hydrogen, (C₁-C₆ alkyl), fluoro, chloro, bromo, iodo, hydroxy, cyano, amino, nitro, -O(C₁-C₄ alkyl), N(C₁-C₄ alkyl)(C₁-C₂ alkyl), -S(C₁-C₄ alkyl), -

SO(C₁-C₄ alkyl), -SO₂(C₁-C₄ alkyl), -CO(C₁-C₄ alkyl), -C(=O)H or C(=O)O (C₁-C₄ alkyl), wherein one or two of the carbon-carbon single bonds in each of the (C₁-C₆ alkyl) and (C₁-C₄ alkyl) moieties in the foregoing R⁴ groups may optionally be replaced with a carbon-carbon double or triple bond and wherein each of said (C₁-C₆ alkyl) and (C₁-C₄ alkyl) moieties may optionally be substituted with one or two substituents independently selected from hydroxy, amino, C₁-C₃ alkoxy, dimethylamino, methylamino, ethylamino, -NHC(=O)CH₃, fluoro, chloro, -CN, -COOH, -C(=O)O(C₁-C₄ alkyl), -C(=O)(C₁-C₄ alkyl) and NO₂;

R⁵ is phenyl, naphthyl, thienyl, benzothienyl, pyridyl, quinolyl, pyrazinyl, furanyl, benzofuranyl, benzothiazolyl, benzisothiazolyl, benzisoxazolyl, benzimidazolyl, indolyl, benzoxazolyl or C₃-C₈ cycloalkyl wherein one or two of the carbon atoms of said cycloalkyl rings that contain at least 5 ring members may optionally and independently be replaced by an oxygen or sulfur atom or by NZ⁴ wherein N⁴ is hydrogen, C₁-C₄ is alkyl or benzyl; and wherein each of the foregoing R⁵ groups is substituted with from one to four substituents wherein one to three of said substituents may be selected, independently, from chloro, C₁-C₆ alkyl and -O(C₁-C₆ alkyl) and one of said substituents may be selected from bromo, iodo, formyl, -CN, -CF₃, -NO₂, -NH₂, -NH(C₁-C₄ alkyl), -N(C₁-C₂ alkyl)(C₁-C₆ alkyl), -C(=O)O(C₁-C₄ alkyl), -C(=O)(C₁-C₄ alkyl), -COOH, -SO₂NH(C₁-C₄ alkyl), -SO₂N(C₁-C₂ alkyl)(C₁-C₄ alkyl), -SO₂NH₂, NHSO₂(C₁-C₄ alkyl), -S(C₁-C₆ alkyl) and -SO₂(C₁-C₆ alkyl), and wherein each of the C₁-C₄ alkyl and C₁-C₆ alkyl moieties in the foregoing R⁵ groups may optionally be substituted with one or two substituents independently selected from fluoro, hydroxy, amino, methylamino, dimethylamino and acetyl; and furthermore wherein when R⁵ is phenyl or pyridyl substituted with three substituents, said substituents can further be selected from (C₁-C₄ alkyl)O(C₁-C₄ alkyl), OCF₃, and fluoro, and one carbon-carbon single bond of each (C₁-C₄) alkyl group of said substituents having between two and four carbon atoms may be optionally replaced with a carbon-carbon double or triple bond; or R⁵ is pyrimidyl substituted by three substituents independently selected from C₁-C₄ alkyl, -O(C₁-C₄ alkyl), CF₃, OCF₃, -CHO, (C₁-C₄ alkyl)-OH, CN, Cl, F, Br, I and NO₂, wherein a carbon-carbon single bond of said (C₁-C₄) alkyl groups having between two and four carbon atoms may optionally be replaced by a carbon-carbon double or triple bond;

R⁷ is hydrogen, C₁-C₄ alkyl, halo, cyano, hydroxy, O(C₁-C₄ alkyl) -C(=O)(C₁-C₄ alkyl), -C(=O)O(C₁-C₄ alkyl), -OCF₃, -CF₃, -CH₂-OH, -CH₂O(C₁-C₄ alkyl);

R¹⁰ is hydrogen, hydroxy, methoxy or fluoro;

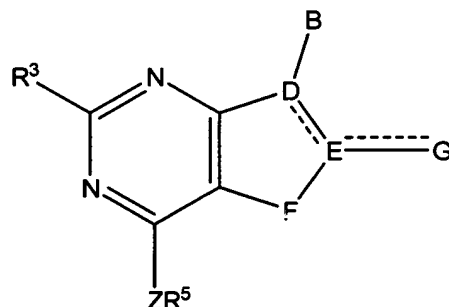
R¹¹ is hydrogen or C₁-C₄ alkyl; and

with the proviso that: (a) when R^4 is attached to nitrogen, it not halo, cyano or nitro; and
(b) one of E, D and F must be nitrogen or substituted nitrogen, and only one of E, D and F can be nitrogen or substituted nitrogen;

Z is NH, oxygen, sulfur, $-N(C_1-C_4 \text{ alkyl})$, $-NC(=O)(C_1-C_2 \text{ alkyl})$ $NC(-O)O(C_1-C_2 \text{ alkyl})$ or $CR^{13}R^{14}$ wherein R^{13} and R^{14} are independently selected from hydrogen, trifluoromethyl and methyl with the exception that one of R^{13} and R^{14} can be cyano;

or a pharmaceutically acceptable salt of such compound. Claims 19 - 24 (cancelled)

Claim 25 (previously amended) A compound of the formula



wherein the dashed lines represent optional double bonds;

B is $-NR^1R^2$, $-CR^1R^2R^{10}$, $-C(=CR^2R^{11})R^1$, $-NHCR^1R^2R^{10}$, $-OCR^1R^2R^{10}$, $-SCR^1R^2R^{10}$, $CR^2R^{10}NHR^1$, $-CR^2R^{10}OR^1$, $-CR^2R^{10}SR^1$ or $-COR^2$;

E is nitrogen, CH or carbon;

D is nitrogen and is single bonded to all atoms to which it is attached, or D is carbon and is double bonded to E, or D is CH and is single bonded to E;

F is CHR^4 or NR^4 ; provided that either 1) exactly one of D or E is nitrogen and F is CHR^4 or 2) F is NR^4 and neither D nor E is nitrogen;

G, when single bonded to E is hydrogen, C_1-C_4 alkyl, $-S(C_1-C_4 \text{ alkyl})$, $-O(C_1-C_4 \text{ alkyl})$, NH_2 , $-NH(C_1-C_4 \text{ alkyl})$ or $-N(C_1-C_2 \text{ alkyl})(C_1-C_4 \text{ alkyl})$ wherein each of the C_1-C_4 alkyl groups of G may optionally be substituted by one hydroxy, $-O(C_1-C_2 \text{ alkyl})$ or fluoro group; and G when double bonded to E is oxygen, sulfur or NH; and G, when E is nitrogen and double bonded to D, is absent;

R^1 is hydrogen, C_1-C_6 alkyl optionally substituted with one or two substituents R^8 independently selected from hydroxy, fluoro, chloro, bromo, iodo, C_1-C_4 alkoxy, CF_3 , $-C(=O)O-(C(=O)O-(C_1-C_4 \text{ alkyl})$, $-OC(=O)(C_1-C_4 \text{ alkyl})$, $OC(=O)N(C_1-C_4 \text{ alkyl})(C_1-C_2 \text{ alkyl})$, $-NHCO(C_1-C_4 \text{ alkyl})$, $-COOH$, $-COO(C_1-C_4 \text{ alkyl})$, $-CONH(C_1-C_4 \text{ alkyl})$, $-CON(C_1-C_4 \text{ alkyl})(C_1-C_2 \text{ alkyl})$, $-S(C_1-C_4 \text{ alkyl})$, $-CN$, NO_2 , $-SO(C_1-C_4 \text{ alkyl})$, $-SO_2(C_1-C_4 \text{ alkyl})$, -

SO₂NH(C₁-C₄ alkyl), SO₂N(C₁-C₄ alkyl)(C₁ - C₂ alkyl), wherein a carbon-carbon single bond of each of the C₁-C₄ alkyl groups in the foregoing R¹ groups having at least two carbons may optionally be replaced with a carbon-carbon double or triple bond, and one or two carbon-carbon single bonds of each of the C₁-C₄ alkyl groups in the foregoing R¹ groups having four carbon atoms may optionally be replaced with a carbon-carbon double or triple bond; R² is C₁-C₁₂ alkyl wherein one carbon-carbon single bond of any said alkyl group having at least two carbons, one or two carbon-carbon single bonds of any alkyl having at least four carbons, and from one to three carbon-carbon single bonds of any said alkyl having at least six carbons may optionally be replaced with a carbon-carbon double or triple bond; or R² is aryl or (C₁-C₄ alkylene)aryl, wherein said aryl and the aryl moiety of said (C₁-C₄ alkylene)aryl is selected from phenyl, naphthyl, thienyl, benzothienyl, pyridyl, quinolyl, pyrazinyl, pyrimidinyl, imidazolyl, furanyl, benzofuranyl, benzothiazolyl, isothiazolyl, pyrazolyl, pyrrolyl, indolyl, pyrrolopyridyl, oxazolyl and benzoxazolyl; or R² is C₃-C₈ cycloalkyl or (C₁-C₆ alkylene)(C₃-C₈ cycloalkyl), wherein one or two of the carbon atoms of said cycloalkyl and the 5 to 8 membered cycloalkyl moieties of said (C₁-C₆ alkylene)(C₃-C₈ cycloalkyl) may optionally and independently be replaced by an oxygen or sulfur atom or by NZ² wherein Z² is selected from hydrogen, C₁-C₄ alkyl, benzyl and C₁-C₄ alkanoyl, and wherein each of the foregoing R² groups may optionally be substituted with from one to three substituents independently selected from chloro, fluoro, hydroxy and C₁-C₄ alkyl, or with one substituent selected from bromo, iodo, C₁-C₆ alkoxy, -OC(=O)(C₁-C₆ alkyl), OC(=O)N(C₁-C₄ alkyl)(C₁-C₂ alkyl), -S(C₁ -C₆ alkyl), amino, -NH(C₁-C₂ alkyl), -N(C₁-C₂ alkyl)(C₁-C₄ alkyl), -N(C₁-C₄ alkyl)-CO-(C₁-C₄ alkyl), -NHCO(C₁-C₄ alkyl), -COOH, -COO(C₁-C₄ alkyl), -CONH(C₁-C₄ alkyl), CON(C₁-C₄ alkyl)(C₁-C₂ alkyl), -SH, -CN, -NO₂, -SO(C₁-C₄ alkyl), -SO₂(C₁-C₄ alkyl), -SO₂NH(C₁-C₄ alkyl) and -SO₂N (C₁-C₄ alkyl)(C₁-C₂ alkyl); -NR¹R² may form a 3 to 8 membered ring, [[,]] said ring consisting of single bonds, wherein, when said ring has from 5 to 8 members, one or two of the ring carbon atoms of such a 5 to 8 membered ring may optionally and independently be replaced by an oxygen or sulfur atom or by NZ³ wherein Z³ is hydrogen, C₁-C₄ alkyl, benzyl and C₁-C₄ alkanoyl, and wherein from one to three of the single bonds of such a 3 to 8 membered ring that are carbon-carbon or carbon-nitrogen single bonds may each optionally be replaced by a double bond;

or -CR¹R²R¹⁰ may form a 3 to 8 membered carbocyclic ring, said ring consisting of single bonds, wherein from one to three of the single bonds of such a 3 to 8 membered ring ~~that are carbon-carbon or carbon-nitrogen single bonds~~ may each optionally be replaced by a double bond;

R³ is hydrogen, C₁-C₄ alkyl, O(C₁-C₄ alkyl), chloro, fluoro, bromo, iodo, -CN, -S(C₁-C₄ alkyl) or -SO₂(C₁-C₄ alkyl) wherein each of the (C₁-C₄ alkyl) moieties in the foregoing R³ groups may optionally be substituted with one substituent R⁹ selected from hydroxy, fluoro and (C₁-C₂ alkoxy);

each of R⁴ is, independently hydrogen, (C₁-C₆ alkyl), fluoro, chloro, bromo, iodo, hydroxy, cyano, amino, nitro, -O(C₁-C₄ alkyl), N (C₁-C₄ alkyl)(C₁-C₂ alkyl), -S(C₁-C₄ alkyl), -SO(C₁-C₄ alkyl), -SO₂(C₁-C₄ alkyl), -CO(C₁-C₄ alkyl), -C(=O)H or C(=O)O (C₁-C₄ alkyl), wherein one or two of the carbon-carbon single bonds in each of the (C₁-C₆ alkyl) and (C₁-C₄ alkyl) moieties in the foregoing R⁴ groups may optionally be replaced with a carbon-carbon double or triple bond and wherein each of said (C₁-C₆ alkyl) and (C₁-C₄ alkyl) moieties may optionally be substituted with one or two substituents independently selected from hydroxy, amino, C₁-C₃ alkoxy, dimethylamino, methylamino, ethylamino, -NHC(=O)CH₃, fluoro, chloro, -CN, -COOH, -C(=O)O(C₁-C₄ alkyl), -C(=O)(C₁-C₄ alkyl) and NO₂;

R⁵ is phenyl, naphthyl, thienyl, benzothienyl, pyridyl, quinolyl, pyrazinyl, furanyl, benzofuranyl, benzothiazolyl, benzisothiazolyl, benzisoxazolyl, benzimidazolyl, indolyl, benzoxazolyl or C₃-C₈ cycloalkyl wherein one or two of the carbon atoms of said cycloalkyl rings that contain at least 5 ring members may optionally and independently be replaced by an oxygen or sulfur atom or by NZ⁴ wherein N⁴ is hydrogen, C₁-C₄ is alkyl or benzyl; and wherein each of the foregoing R⁵ groups is substituted with from one to four substituents wherein one to three of said substituents may be selected, independently, from chloro, C₁-C₆ alkyl and -O(C₁-C₆ alkyl) and one of said substituents may be selected from bromo, iodo, formyl, -CN, -CF₃, -NO₂, -NH₂, -NH(C₁-C₄ alkyl), -N(C₁-C₂ alkyl)(C₁-C₆ alkyl), -C(=O)O(C₁-C₄ alkyl), -C(=O)(C₁-C₄ alkyl), -COOH, -SO₂NH(C₁-C₄ alkyl), -SO₂N (C₁ C₂ alkyl) (C₁-C₄ alkyl), -SO₂NH₂, NHSO₂ (C₁-C₄ alkyl), S(C₁-C₆ alkyl) and -SO₂ (C₁-C₆ alkyl), and wherein each of the C₁-C₄ alkyl and C₁-C₆ alkyl, moieties in the foregoing R⁵ groups may optionally be substituted with one or two substituents independently selected from fluoro, hydroxy, amino, methylamino, dimethylamino and acetyl;

R⁷ is hydrogen, C₁ C₄ alkyl, halo, cyano, hydroxy, -O(C₁-C₄ alkyl) -C(=O)(C₁-C₄ alkyl), -C(=O)O(C₁-C₄ alkyl), -OCF₃, -CF₃, -CH₂-OH, -CH₂O(C₁-C₄ alkyl);

R¹⁰ is hydrogen, hydroxy, methoxy or fluoro;

R¹¹ is hydrogen or C₁-C₄ alkyl; and

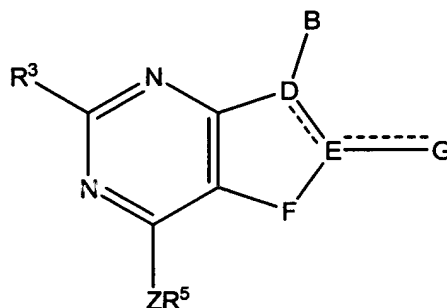
with the proviso that: (a) when R^4 is attached to nitrogen, it not halo, cyano or nitro; and
(b) one of E, D and F must be nitrogen or substituted nitrogen, and only one of E, D and F can be nitrogen or substituted nitrogen;

Z is NH, oxygen, sulfur, $-N(C_1-C_4 \text{ alkyl})$, $-NC(=O)(C_1-C_2 \text{ alkyl})$ $NC(-O)O(C_1-C_2 \text{ alkyl})$ or $CR^{13}R^{14}$ wherein R^{13} and R^{14} are independently selected from hydrogen, trifluoromethyl and methyl with the exception that one of R^{13} and R^{14} can be cyano;

or a pharmaceutically acceptable salt of such compound.

Claim 26-27 (cancelled)

Claim 28 (previously amended) A compound of the formula



wherein the dashed lines represent optional double bonds;

B is $-NR^1R^2$, $-CR^1R^2R^{10}$, $-C(=CR^2R^{11})R^1$, $-NHCR^1R^2R^{10}$, $-OCR^1R^2R^{10}$, $-SCR^1R^2R^{10}$, $CR^2R^{10}NHR^1$, $-CR^2R^{10}OR^1$, $-CR^2R^{10}SR^1$ or $-COR^2$;

E is nitrogen, CH or carbon;

D is nitrogen and is single bonded to all atoms to which it is attached, or D is carbon and is double bonded to E, or D is CH and is single bonded to E;

F is CHR^4 or NR^4 , provided that either 1) exactly one of D or E is nitrogen and F is CHR^4 or 2) F is NR^4 and neither D nor E is nitrogen

G, when single bonded to E is hydrogen, C_1-C_4 alkyl, $-S(C_1-C_4 \text{ alkyl})$, $-O(C_1-C_4 \text{ alkyl})$, NH_2 , $-NH(C_1-C_4 \text{ alkyl})$ or $-N(C_1-C_2 \text{ alkyl})(C_1-C_4 \text{ alkyl})$ wherein each of the C_1-C_4 alkyl groups of G may optionally be substituted by one hydroxy, $-O(C_1-C_2 \text{ alkyl})$ or fluoro group; and G when double bonded to E is oxygen, sulfur or NH; and G, when E is nitrogen and double bonded to D, is absent;

R^1 is C_1-C_6 alkyl optionally substituted with one substituent selected from hydroxy, fluoro, CF_3 , or C_{1-4} alkoxy wherein a carbon-carbon single bond of each of the C_1-C_4 alkyl groups in the foregoing R^1 groups having at least two carbons may optionally be replaced with a carbon-carbon double or triple bond, R^2 is benzyl or C_{1-6} alkyl which may optionally contain one

double or triple bond and wherein said C₁₋₆ alkyl and the phenyl moiety of said benzyl may optionally be substituted with one fluoro, Cf₃, C₁-C₂ alkyl C₁-C₂ alkoxy or chloro group.;

-NR¹R² may form a 3 to 8 membered ring,[[,]] said ring consisting of single bonds, wherein, when said ring has from 5 to 8 members, one or two of the ring carbon atoms of such a 5 to 8 membered ring may optionally and independently be replaced by an oxygen or sulfur atom or by NZ³ wherein Z³ is hydrogen, C₁-C₄ alkyl, benzyl and C₁-C₄ alkanoyl, and wherein from one to three of the single bonds of such a 3 to 8 membered ring that are carbon-carbon or carbon-nitrogen single bonds may each optionally be replaced by a double bond;

or -CR¹R²R¹⁰ may form a 3 to 8 membered carbocyclic ring, said ring consisting of single bonds, wherein from one to three of the single bonds of such a 3 to 8 membered ring ~~that are carbon-carbon or carbon-nitrogen single bonds~~ may each optionally be replaced by a double bond;

R³ is hydrogen, C₁-C₄ alkyl, O(C₁-C₄ alkyl), chloro, fluoro, bromo, iodo, -CN, -S(C₁-C₄ alkyl) or -SO₂(C₁-C₄ alkyl) wherein each of the (C₁-C₄ alkyl) moieties in the foregoing R³ groups may optionally be substituted with one substituent R⁹ selected from hydroxy, fluoro and (C₁-C₂ alkoxy);

each of R⁴ is, independently hydrogen, (C₁-C₆ alkyl), fluoro, chloro, bromo, iodo, hydroxy, cyano, amino, nitro, -O(C₁-C₄ alkyl), N (C₁-C₄ alkyl)(C₁-C₂ alkyl), -S(C₁-C₄ alkyl), -SO(C₁-C₄ alkyl), -SO₂(C₁-C₄ alkyl), -CO(C₁-C₄ alkyl), -C(=O)H or C(=O)O (C₁-C₄ alkyl), wherein one or two of the carbon-carbon single bonds in each of the (C₁-C₆ alkyl) and (C₁-C₄ alkyl) moieties in the foregoing R⁴ groups may optionally be replaced with a carbon-carbon double or triple bond and wherein each of said (C₁-C₆ alkyl) and (C₁-C₄ alkyl) moieties may optionally be substituted with one or two substituents independently selected from hydroxy, amino, C₁-C₃ alkoxy, dimethylamino, methylamino, ethylamino, -NHC(=O)CH₃, fluoro, chloro, -CN, -COOH, -C(=O)O(C₁-C₄ alkyl), -C(=O)(C₁-C₄ alkyl) and NO₂;

R⁵ is phenyl, naphthyl, thienyl, benzothienyl, pyridyl, quinolyl, pyrazinyl, furanyl, benzofuranyl, benzothiazolyl, benzisothiazolyl, benzisoxazolyl, benzimidazolyl, indolyl, benzoxazolyl or C₃-C₈ cycloalkyl wherein one or two of the carbon atoms of said cycloalkyl rings that contain at least 5 ring members may optionally and independently be replaced by an oxygen or sulfur atom or by NZ⁴ wherein N⁴ is hydrogen, C₁-C₄ is alkyl or benzyl; and wherein each of the foregoing R⁵ groups is substituted with from one to four substituents wherein one to three of said substituents may be selected, independently, from chloro, C₁-C₆ alkyl and -O(C₁-C₆ alkyl) and one of said substituents may be selected from bromo, iodo, formyl, -CN, -CF₃, -NO₂,

NH₂, -NH(C₁-C₄ alkyl), -N(C₁-C₂ alkyl)(C₁-C₆ alkyl), -C(=O)O(C₁-C₄ alkyl), -C(=O)(C₁-C₄ alkyl), -COOH, -SO₂NH(C₁-C₄ alkyl), -SO₂N(C₁-C₂ alkyl)(C₁-C₄ alkyl), -SO₂NH₂, NHSO₂(C₁-C₄ alkyl), -S(C₁-C₆ alkyl) and -SO₂(C₁-C₆ alkyl), and wherein each of the C₁-C₄ alkyl and C₁-C₆ alkyl, moieties in the foregoing R⁵ groups may optionally be substituted with one or two substituents independently selected from fluoro, hydroxy, amino, methylamino, dimethylamino and acetyl;

R⁷ is hydrogen, C₁-C₄ alkyl, halo, cyano, hydroxy, -O(C₁-C₄ alkyl)-C(=O)(C₁-C₄ alkyl), -C(=O)O(C₁-C₄ alkyl), -OCF₃, -CF₃, -CH₂-OH, -CH₂O(C₁-C₄ alkyl);

R¹⁰ is hydrogen, hydroxy, methoxy or fluoro;

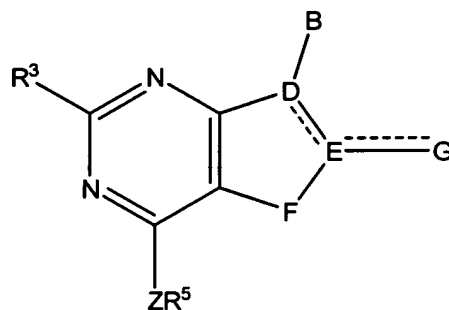
R¹¹ is hydrogen or C₁-C₄ alkyl; and

with the proviso that: (a) when R⁴ is attached to nitrogen, it not halo, cyano or nitro; and (b) one of E, D and F must be nitrogen or substituted nitrogen, and only one of E, D and F can be nitrogen or substituted nitrogen;

Z is NH, oxygen, sulfur, -N(C₁-C₄ alkyl), -NC(=O)(C₁-C₂ alkyl)NC(-O)O(C₁-C₂ alkyl) or CR¹³R¹⁴ wherein R¹³ and R¹⁴ are independently selected from hydrogen, trifluoromethyl and methyl with the exception that one of R¹³ and R¹⁴ can be cyano;

or a pharmaceutically acceptable salt of such compound.

Claim 29 (previously amended) A compound of the formula



wherein the dashed lines represent optional double bonds;

B is -NR¹R², -CR¹R²R¹⁰, -C(=CR²R¹¹)R¹, -NHCR¹R²R¹⁰, -OCR¹R²R¹⁰, -SCR¹R²R¹⁰, CR²R¹⁰NHR¹, -CR²R¹⁰OR¹, -CR²R¹⁰SR¹ or -COR²;

E is nitrogen, CH or carbon;

D is nitrogen and is single bonded to all atoms to which it is attached, or D is carbon and is double bonded to E, or D is CH and is single bonded to E;

F is CHR⁴ or NR⁴; provided that either 1) exactly one of D or E is nitrogen and F is CHR⁴ or 2) F is NR⁴ and neither D nor E is nitrogen;

G, is hydrogen, methyl or ethyl or E=G is C=O or C=S;

R^1 is hydrogen, C_1 - C_6 alkyl optionally substituted with one or two substituents R^8 independently selected from hydroxy, fluoro, chloro, bromo, iodo, C_1 - C_4 alkoxy, CF_3 , $-C(=O)O-(C_1-C_4)alkyl$, $-OC(=O)(C_1-C_4)alkyl$, $OC(=O)N(C_1-C_4 alkyl)(C_1-C_2 alkyl)$, $-NHCO(C_1-C_4 alkyl)$, $-COOH$, $-COO(C_1-C_4 alkyl)$, $-CONH(C_1-C_4 alkyl)$, $-CON(C_1-C_4 alkyl)(C_1-C_2 alkyl)$, $-S(C_1-C_4 alkyl)$, $-CN$, NO_2 , $-SO(C_1-C_4 alkyl)$, $-SO_2(C_1-C_4 alkyl)$, $-SO_2NH(C_1-C_4 alkyl)$, $SO_2N(C_1-C_4 alkyl)(C_1-C_2 alkyl)$, wherein a carbon-carbon single bond of each of the C_1 - C_4 alkyl groups in the foregoing R^1 groups having at least two carbons may optionally be replaced with a carbon-carbon double or triple bond, and one or two carbon-carbon single bonds of each of the C_1 - C_4 alkyl groups in the foregoing R^1 groups having four carbon atoms may optionally be replaced with a carbon-carbon double or triple bond; R^2 is C_1 - C_{12} alkyl wherein one carbon-carbon single bond of any said alkyl group having at least two carbons, one or two carbon-carbon single bonds of any alkyl having at least four carbons, and from one to three carbon-carbon single bonds of any said alkyl having at least six carbons may optionally be replaced with a carbon-carbon double or triple bond; or R^2 is aryl or $(C_1-C_4 alkylene)aryl$, wherein said aryl and the aryl moiety of said $(C_1-C_4 alkylene)aryl$ is selected from phenyl, naphthyl, thienyl, benzothienyl, pyridyl, quinolyl, pyrazinyl, pyrimidinyl, imidazolyl, furanyl, benzofuranyl, benzothiazolyl, isothiazolyl, pyrazolyl, pyrrolyl, indolyl, pyrrolopyridyl, oxazolyl and benzoxazolyl; or R^2 is C_3 - C_8 cycloalkyl or $(C_1-C_6 alkylene)(C_3-C_8 cycloalkyl)$, wherein one or two of the carbon atoms of said cycloalkyl and the 5 to 8 membered cycloalkyl moieties of said $(C_1-C_6 alkylene)(C_3-C_8 cycloalkyl)$ may optionally and independently be replaced by an oxygen or sulfur atom or by NZ^2 wherein Z^2 is selected from hydrogen, C_1 - C_4 alkyl, benzyl and C_1 - C_4 alkanoyl, and wherein each of the foregoing R^2 groups may optionally be substituted with from one to three substituents independently selected from chloro, fluoro, hydroxy and C_1 - C_4 alkyl, or with one substituent selected from bromo, iodo, C_1 - C_6 alkoxy, $-OC(=O)(C_1-C_6 alkyl)$, $OC(=O)N(C_1-C_4 alkyl)(C_1-C_2 alkyl)$, $-S(C_1-C_6 alkyl)$, amino, $-NH(C_1-C_2 alkyl)$, $-N(C_1-C_2 alkyl)(C_1-C_4 alkyl)$, $-N(C_1-C_4 alkyl)-CO-(C_1-C_4 alkyl)$, $-NHCO(C_1-C_4 alkyl)$, $-COOH$, $-COO(C_1-C_4 alkyl)$, $-CONH(C_1-C_4 alkyl)$, $CON(C_1-C_4 alkyl)(C_1-C_2 alkyl)$, $-SH$, $-CN$, $-NO_2$, $-SO(C_1-C_4 alkyl)$, $-SO_2(C_1-C_4 alkyl)$, $-SO_2NH(C_1-C_4 alkyl)$ and $-SO_2N(C_1-C_4 alkyl)(C_1-C_2 alkyl)$;

$-NR^1R^2$ may form a 3 to 8 membered ring,[[,]] said ring consisting of single bonds, wherein, when said ring has from 5 to 8 members, one or two of the ring carbon atoms of such a 5 to 8 membered ring may optionally and independently be replaced by an oxygen or sulfur atom or by NZ^3 wherein Z^3 is hydrogen, C_1 - C_4 alkyl, benzyl and C_1 - C_4 alkanoyl, and wherein

from one to three of the single bonds of such a 3 to 8 membered ring that are carbon-carbon or carbon-nitrogen single bonds may each optionally be replaced by a double bond;

or $-CR^1R^2R^{10}$ may form a 3 to 8 membered carbocyclic ring, said ring consisting of single bonds, wherein from one to three of the single bonds of such a 3 to 8 membered ring ~~that are carbon-carbon or carbon-nitrogen single bonds~~ may each optionally be replaced by a double bond;

R^3 is methyl, ethyl, chloro or methoxy;

each of R^4 is methyl, ethyl or trifluoro methyl;

R^5 is phenyl or pyridyl,

R^7 is hydrogen, C_1 - C_4 alkyl, halo, cyano, hydroxy, $-O(C_1$ - C_4 alkyl) $-C(=O)(C_1$ - C_4 alkyl), $-C(=O)O(C_1$ - C_4 alkyl), $-OCF_3$, $-CF_3$, $-CH_2$ -OH, $-CH_2O(C_1$ - C_4 alkyl);

R^{10} is hydrogen, hydroxy, methoxy or fluoro;

R_{11} is hydrogen or C_1 - C_4 alkyl; and

with the proviso that: (a) when R^4 is attached to nitrogen, it not halo, cyano or nitro; and (b) one of E, D and F must be nitrogen or substituted nitrogen, and only one of E, D and F can be nitrogen or substituted nitrogen;

Z is NH, oxygen, sulfur, $-N(C_1$ - C_4 alkyl), $-NC(=O)(C_1$ - C_2 alkyl) $NC(-O)O(C_1$ - C_2 alkyl) or $CR^{13}R^{14}$ wherein R^{13} and R^{14} are independently selected from hydrogen, trifluoromethyl and methyl with the exception that one of R^{13} and R^{14} can be cyano;

or a pharmaceutically acceptable salt of such compound.